

General Notes:

This report contains results for Metals and Glycols analyses only. All other parameters identified on the chain-of-custody form are included in separate reports. Lab Sample numbers 1202004-05, -10, -12, -18 and 1202004-45 thru -49 are not included in this report since these samples were designated for Volatile Organic analysis only.

For Work Order 1202004 - **This is Report 1 of 3.**

The sample vial for the Glycols analysis was received broken for 1202004-22. All samples were received at proper temperature

Analytical results for samples by the Orthophosphorus method are not included in this report. Instead samples were analyzed using the Total Phosphate method to eliminate any issues with holding times. Since the Orthophosphorus method was being used as a screening method to determine the need to analyze the sample by the Total Phosphate method, results for Total Phosphate are not impacted.

Samples designated for the analysis of Oil & Grease were received in sample containers inconsistent with the type needed for the routine extraction procedure. Therefore, all samples were extracted using the manual extraction technique.

Where applicable, sample results are qualified based on the highest level concentrations of field QC contamination found in the field, equipment, or trip blanks.

Unless otherwise noted below, all required instrument and method QC was run and was within criteria.

Metals Analysis Note:

Uranium, strontium, lithium, tin, and titanium were analyzed as an on-demand analysis.

Glycols by HPLC/MS/MS Note:

Samples were analyzed for diethylene glycol (DiG) (CAS# 111-46-6), triethylene glycol (TriG) (112-27-6), tetraethylene glycol (TeG) (112-60-7), 2-butoxyethanol (2-Bu) (111-76-2) and 2-methoxyethanol (109-86-4) by HPLC/MS/MS (inst id: TQD-LCMSMS) on a Waters Atlantis dC18 3um 2.1 x 150mm column (s/n- 0141301481).

An HPLC/MS/MS method does not currently exist for these analytes. ASTM D 7731-11 and EPA SW-846 Methods 8000C and 8321 were followed for method development and QA/QC limits where applicable. All applicable OASQA On Demand QA/QC protocols were followed.

The aqueous samples were injected without extraction onto the HPLC/MS/MS system

Refer to notes in the case file for additional information regarding the analysis.

REPORT 1 of 3

General Notes:

This report contains results for Volatiles (VOAs), Semivolatiles (SVOAs), and Alcohol analyses only. All other parameters identified on the chain-of-custody form are included in separate reports. Lab Sample numbers 1202004-02, -04, -07, -09, -14, -16, -19, -20 and 1202004-33 thru -44 are not included in this report since these samples were designated for Metals and Mercury analyses only.

For Work Order 1202004 - **This is Report 2 of 3.**

Chain-of-Custody forms are included in Report 1 of 3 for this Work Order.

The sample vial for the Glycols analysis was received broken for 1202004-22. All samples were received at proper temperature.

Analytical results for samples by the Orthophosphorus method are not included in this report. Instead samples were analyzed using the Total Phosphate method to eliminate any issues with holding times. Since the Orthophosphorus method was being used as a screening method to determine the need to analyze the sample by the Total Phosphate method, results for Total Phosphate are not impacted.

Samples designated for the analysis of Oil & Grease were received in sample containers inconsistent with the type needed for the routine extraction procedure. Therefore, all samples were extracted using the manual extraction technique.

Where applicable, sample results are qualified based on the highest level concentrations of field QC contamination found in the field, equipment, or trip blanks.

Unless otherwise noted below, all required instrument and method QC was run and was within criteria.

SVOAs Analysis Note:

All samples were extracted by EPA SW-846 Method 3520C followed by analysis using EPA SW-846 Method 8270D. Refer to notes in case file for additional information regarding the analysis.

Sample 1202004-29 was re-extracted due to a laboratory error. Although re-extraction was successful, results for sample 1202004-29 are suspect. Although, all QC and lab blanks are acceptable for sample 1202004-29, low levels of certain compounds detected indicate possible glassware contamination.

For this project two additional compounds are added to the SVOC analysis; 2-methoxyethanol and 1-methylnaphthalene. A separate calibration curve is used these compounds with quality control requirements per the On-Demand protocol. For 2-methoxyethanol, the analysis is also being completed on each sample using the HPLC/MS/MS technique (Glycol analysis). Since SVOC extraction efficiencies are problematic for 2-methoxyethanol, the results from the HPLC/MS/MS technique should be used for these samples.

Results for samples 1202004-01 thru -28, for 2-methoxyethanol, 3,3'-dichlorobenzidine, and 2,4-dinitrophenol are considered rejected (qualified "R") due to zero percent recovery in the low-spike quality control check and lack of a mid-spike quality control check. Quantitation limits for pentachlorophenol, 4,6-dinitro-2-methylphenol, and 4-chloroaniline are qualified estimated "UJ" due to low percent recovery in the low-spike quality control check. The mid-spike quality control check was broken before it could be analyzed.

The quantitation limits for samples 1202004-30 thru -32 for 3,3'-dichlorobenzidine, pentachlorophenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, and 2-methoxyethanol are elevated due to zero or low percent recovery in the low-spike quality control check. The mid-spike quality control check was acceptable.

The quantitation limits for sample 1202004-29 for pentachlorophenol and 4,6-dinitro-2-methylphenol are qualified "UJ" due to low percent recovery in the low-spike quality control check. The sample result for atrazine is qualified estimated "J" due to low percent recovery in the low-spike quality control check. The quantitation limit for 2,4-dinitrophenol is elevated due to zero percent recovery in the low-spike quality control check. The mid-spike quality control results are acceptable. The results for 3,3'-dichlorobenzidine, 3-nitroaniline, 4-chloroaniline, and 2-methoxyethanol are considered rejected (qualified "R") due to zero or low percent recovery in the low and mid-spike quality control checks.

Four out of six surrogates recoveries are below acceptance limits for sample 1202004-08; therefore, quantitation limits are

qualified estimated "UJ" for all non-detected analytes. Low internal standard counts were observed in sample 1202004-32; therefore, quantitation limits for n-nitrosodimethylamine, benzaldehyde, phenol, bis(2-chloroethyl)ether, 2-chlorophenol, 2-methylphenol, bis(2-chloroisopropyl)ether, acetophenone, 4-methylphenol, hexachloroethane, n-nitroso-di-n-propylamine, and 1-methylnaphthalene are qualified estimated "UJ".

In the report, only 16 compounds are reported for spike quality control check samples. Quality control information for the remaining compounds is available in the case file.

Alcohols Analysis Note:

All required instrument QC was run and was within the required criteria.

REPORT 2 of 3

General Notes:

This report contains results for Inorganic analyses only. All other parameters identified on the chain-of-custody form are included in separate reports. Lab Sample numbers 1202004-05, -10, -12, -18 and 1202004-45 thru -49 are not included in this report since these samples were designated for Volatile Organic analysis only.

For Work Order 1202004 - **This is Report 3 of 3.**

Chain-of-Custody forms are included in Report 1 of 3 for this Work Order.

The sample vial for the Glycols analysis was received broken for 1202004-22. All samples were received at proper temperature.

Analytical results for samples by the Orthophosphorus method are not included in this report. Instead samples were analyzed using the Total Phosphate method to eliminate any issues with holding times. Since the Orthophosphorus method was being used as a screening method to determine the need to analyze the sample by the Total Phosphate method, results for Total Phosphate are not impacted.

Samples designated for the analysis of Oil & Grease were received in sample containers inconsistent with the type needed for the routine extraction procedure. Therefore, all samples were extracted using the manual extraction technique.

Where applicable, sample results are qualified based on the highest level concentrations of field QC contamination found in the field, equipment, or trip blanks.

Unless otherwise noted below, all required instrument and method QC was run and was within criteria.

TSS Analysis Note:

All required instrument QC was run and was within the required criteria.

TDS/TSS Analysis Note:

As required for this project, sample results were qualified "B" when the TDS value was less than 10X the value reported for contaminated blanks. All samples with detectable results were qualified "B" due to the field blank (FB14) contamination

Nitrite/Nitrate and Total Nitrogen Analysis Note:

Samples were run as an on-demand analysis.

Result for total nitrogen for sample 1202004-28 was qualified estimated 'J' due to the laboratory matrix spike results outside of criteria limits.

Oil and Grease Analysis Note:

Samples were run as an on-demand analysis.

The quantitation limit for all samples was qualified estimated 'UJ' due to the laboratory minimum reporting limit quality control checks, one matrix spike, and one blank spike outside of criteria limits.

Samples were received in containers not conducive to use on the Horizon SPE-DEX automated system. Therefore, manual extraction technique was used for all samples. Refer to notes in the case file for additional information.

Mercury Analysis Note:

All required instrument QC was run and was within the required criteria.

Total Phosphorus Analyses Note:

Samples were run as an on-demand analysis.

Results for sample 1202004-21 was qualified estimated 'J' due to the laboratory matrix spike results outside of criteria limits.

Anions Analysis Note:

All required instrument QC was run and was within the required criteria.

REPORT 3 of 3